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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/929,221	08/13/2001	Stephen F. Gass	SDT 302	2131

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SD3, LLC
22409 S.W. NEWLAND ROAD
WILSONVILLE, OR 97070

EXAMINER

DRUAN, THOMAS J

ART UNIT	PAPER NUMBER
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3724

DATE MAILED: 09/12/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/929,221

Applicant(s)

GASS ET AL.

Examiner

Thomas J. Druan, Jr.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 1,5-8.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 1, 2, 4, 9, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by EP 0362937 (hereinafter EP '937).

EP '937 discloses the invention as claimed including an electrically conductive cutting tool 3 mounted on a rotatable, electrically conductive shaft 2; a contact detection system 50 for detecting contact between a person and the cutting tool, where the contact detection system includes one or more drive electrodes 39 adapted to impart an electrical signal onto the cutting tool; and a reaction system 42 configured to cause one or more predetermined actions to take place upon detection of contact between a person and the cutting tool by the contact detection system; where the one or more drive electrodes are disposed adjacent the shaft to impart the electrical signal onto the cutting tool through the shaft. A frame 6 is configured to support the shaft. The shaft is mounted in one or more bearings 13 supported by the frame, and is electrically insulated from the frame by electrically insulating components 15 disposed between the bearings and the frame. A motor assembly 7 is configured to rotate the shaft and cutting tool, and the one or more predetermined actions includes stopping the rotation of the cutting tool (the shaft reverses motion, which means at some point between forward

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and reverse, it is stopped). It is noted that element 3 is considered a cutting tool since it provide a force in a shearing action, therefore acting as a tool for cutting.

3. Claim 17 is rejected under 35 U.S.C. 102(b) as being anticipated by US 3,858,095 to Friemann et al.

Friemann et al. discloses the invention as claimed including an electrically conductive cutting tool 5; a motor **M** configured to drive a cutting tool; a contact detection system **R1** configured to detect contact between a person and the cutting tool; a capacitive coupling **C** between the contact detection system and the cutting tool; and a brake mechanism 13 configured to engage and stop the cutting tool if contact between the person and the cutting tool is detected by the contact detection system; where the contact detection system is configured to impart an electrical signal onto the cutting tool through the capacitive coupling, and to detect contact between a person and the cutting tool based on changes in the electrical signal imparted to the cutting tool (column 3, lines 21-68).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over EP '937 in view of US 5,587,618 to Hathaway.

EP '937 discloses the invention substantially as claimed, but uses insulates the shaft from the frame by using insulating components between the bearings and the frame as opposed to between the shaft and the bearings. Hathaway teaches using sleeves 351 on the ends of shaft 210 in order to electrically insulate the shaft from the bearings (column 13, lines 57-59). Therefore, it would have been obvious to electrically insulate the shaft of EP '937 from its bearings using electrically insulating components disposed between the shaft and the bearings since Hathaway teaches the use of sleeves between a shaft and bearings to electrically insulate a shaft from the rest of the machine to which it is attached (column 13, lines 40-45).

6. Claims 1-7, 9, 10, 12-14, 16, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 3,785,230 to Lokey in view of US 1,551,900 to Morrow.

Lokey discloses the invention substantially as claimed, including a woodworking machine comprising: an electrically conductive cutting tool 13 mounted on a rotatable, electrically conductive shaft 14; a contact detection system for detecting contact between a person and the cutting tool (because the system of Lokey detects changes in capacitance, it is simply a matter of sensitivity determined by the adjustment knob 19 to set the point at which the relay will be triggered to sound the bell and stop the saw blade, and setting the relay to brake at distance of zero is an obvious option, and upon contacting the blade, the capacitance will change dramatically), where the contact

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detection system includes one or more drive electrodes (antenna 16) spaced apart from the shaft adapted to capacitively couple an electrical signal onto the cutting tool; a sense electrode 15/16/18/19 displaced adjacent the shaft (column 2, lines 2-6 and figure 1), and a reaction system configured 21 to stop movement of the cutting tool upon detection of contact between a person and the cutting tool by the contact detection system (column 2, lines 23-27). A motor is inherently provided to drive the cutting tool.

Lokey discloses the cutting tool being electrically insulated from the shaft as opposed to electrically insulating the shaft from a frame of saw 11, and therefore an electrical signal from a drive electrode is imparted to the blade of Lokey as opposed to the shaft of Lokey in order for a capacitance to be present in the blade. Morrow teaches attaching a drive electrode 8 through a shaft 9 in order to provide a capacitance, or stored charge, in a blade 1, and also teaches that any or all of the components between a blade and ground (or grounded structure) may be insulated as long as the blade can be energized by the drive electrode through a conductive material (page 1, lines 74-88). Therefore, it would have been obvious to impart the electrical signal to the cutting tool through the shaft and having the shaft be insulated from the frame of saw 11 since placement of electrical insulation is arbitrary as long as the cutting tool can accept an electrical signal, and placing the drive electrode near the blade shaft and away from the blade allows the drive electrode to be placed a safe distance from the blade.

7. Claims 8, 11, 15, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lokey in view of Morrow.

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Lokey discloses the invention substantially as claimed, but does not indicate a value for the capacitance of the capacitive coupling. A capacitance of at least 10 picofarads would have been obvious to one skilled in the art at the time of the invention since since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art.


Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as showing the state of the art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thomas J. Druan, Jr. whose telephone number is 703-308-4200. The examiner can normally be reached on M-F (8:30-6:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Allan N. Shoap can be reached on 703-308-1082. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.


BOYER ASHLEY
PRIMARY EXAMINER

9094

tjd

September 8, 2003